

W5YI

America's Oldest Ham Radio Newsletter

REPORT

Up to the minute news from the world of amateur radio, personal computing and emerging electronics. While no guarantee is made, information is from sources we believe to be reliable.

May be republished providing credit is given to *The W5YI Report*.

Fred Maia, W5YI, Editor, P.O. Box 565101, Dallas, TX 75356-5101
Electronic mail: fmaia@internetMCI.com Website: <http://www.w5yi.org>
Tel. 817-461-6443 FAX: 817-548-9594

IARU Morse Code Controversy
Region 3 Conference in Beijing
Privatized Enforcement Comments
IBM Introduces Copper PC Chips
Soap Opera at Apple Computing
Burgeoning Use of PC Cameras
Microsoft to Enter Real Estate Biz
New "Snap! Online Service Debuts
CompuServe Internet Service Sold
Low-Power AM Broadcast Petition
PCS Providers Can't Pay the Bill
Ham Phase 3D Satellite on Hold
FCC Now Processing Gate 3 Calls
NASA/Congress Ponder Mir Mission
Unlicensed Low Power Broadcasting

Vol. 19, Issue #19

\$1.50

PUBLISHED TWICE A MONTH

October 1, 1997

Morse Code Controversy at the IARU...

The International Amateur Radio Union is a federation of national amateur radio societies from around the world. The IARU, which claims to represent the global Amateur Radio community is pretty much controlled by the American Radio Relay League.

The IARU's *Future of the Amateur Service Committee* (FASC) was formed to come up with an international position on what Amateur Radio should be like in the 21st century. The international radio regulations pertaining to the amateur service are scheduled to be considered at WRC-99 which will be convened in Geneva in the fall of 1999. The tentative date is around October 10-17 to coincide with the World TELECOM Exposition.

A recent report (from the *IARU Region 1 News*, July 1997) said that "At a meeting of the Executive Committee of IARU Region 1, held on 3-6 April 1997, ...the Committee's Vice Chairman reported that overloaded WRC-97 and WRC-99 agendas could result in the amateur radio provisions (including the question of the amateur Morse test) due to be considered at the World Radio Conference 1999 being deferred to WRC-2001."

In April 1996, the FASC released a 20-page discussion paper entitled: *The International Regulations Affecting the Amateur Service*. Comments were invited from the various amateur radio societies around the world to serve as a basis for an IARU report which would be delivered to the Region 1 Conference. (Tel Aviv, Israel, Sept. 1996)

The Amateur Service provisions are contained in Article 32 of the 1994 and earlier editions of the Radio Regulations, which was renumbered Article S25 at WRC-95. WRCs are convened by the International Telecommunication Union every two years and have the power to revise the Radio Regulations, which have the force and effect of a treaty.

Even though the entire international amateur and amateur-satellite regulations are being looked at, the FASC found that the Morse code issue overshadowed all others. The preliminary view of the FASC was that the code requirement should not be a part of the IARU recommendation. The reason given was that it would be many years before the issue could be considered again. In other words, the IARU would not really support abolition of the manual telegraphy as a licensing mandate. Instead they would support it since they would have to eventually do so. That "fuzzy-thinking" view certainly was not popular with the international amateur radio community!

IARU issues Second Report

After the Region 1 IARU Conference held last fall in Tel Aviv, the International Amateur Radio Union released a "*Second Report Following Release of Discussion Paper*." The Report was released very late (on July 23, 1997) ...some ten months after the Region 1 Conference. In it was a proposed revised approach to Article S25, the international regulations which cover the Amateur Services.

W5YI REPORT

America's Oldest Ham Radio Newsletter

Page #2

October 1, 1997

The IARU's thinking on the relevance of Morse code as a licensing requirement is contained in this quote from the *Report*. "S25.5 - Although the debate was lively it was agreed that the requirement for Morse should remain within S25. It was stressed that to enable this to continue FASC would require reasoned arguments for its retention. Member Societies were requested to address this issue and submit their proposals to FASC. It was made quite clear to the meeting that it will not be easy to retain the 'status quo' at WRC99 as ITU tends to reach decisions by consensus rather than simple voting." On the Morse Code issue, the IARU Region 1 recommendation was that: "The existing S25.5 definition should be retained."

The FASC did, however, release an alternative Article S25 which addresses issues which were less controversial. The current definition of the amateur service received almost total support. The definition - "a ...service for the purpose of self-training, intercommunication and technical investigations carried out by amateurs, that is, by duly authorized persons interested in radio technique solely with a personal aim and without pecuniary interest"

Here is a proposed rewrite of S25 that was released after the Tel Aviv Conference. The FASC emphasized that its release was "...for discussion only" and could easily be changed after other Conferences and comments have been considered:

ARTICLE S25 - Amateur Services

Section 1. Amateur Service

S25.1 Administrations shall verify the technical and operational qualifications of any person wishing to operate an amateur station. A person seeking a license to operate an amateur station may be required to demonstrate a knowledge of the topics specified in ITU-R Recommendation M-XXX. *[This contains a recommended syllabus which would not be mandatory for a country to follow if it chose not to do so.]*

S25.2 (1) Transmissions between amateur stations of different countries shall be limited to communications incidental to the purposes of the amateur service or of a personal character. *[This is essentially the same as the current wording.]*

(2) Except with the authority of the relevant administration granted to meet a particular operational need, transmissions between amateur stations shall not be encoded for the purpose of obscuring their meaning. *[A rewording of the previous international radio regulation which required transmission to be in plain language.]*

S25.3 Administrations are urged to take the steps necessary to allow amateur stations to prepare for and meet communication needs in the event of a natural disaster. *[Addresses an ITU resolution that urges administrations to deploy effective telecommunications to alleviate disasters and to provide relief operations.]*

S25.4 A person who has been granted a license to

operate an amateur station by an administration that requires the demonstration of a knowledge of the topics specified in ITU-R Recommendation M-XXX before granting such a license, may be permitted by second administration to operate an amateur station in its territory while the person is temporarily in that territory, subject to such conditions or restrictions as it may impose. The administration permitting such operation is not required to issue a license to that person temporarily in its territory. *[Permits, but does not require, a nation to accept the qualifications of an amateur licensed in another country.]*

Section II. Amateur-Satellite Service

S25.5 The provisions of Section I of this Article shall apply equally, as appropriate, to the amateur-satellite service. *[No change from the present provision.]*

S25.6 Administrations authorizing space stations in the amateur-satellite service shall ensure that sufficient earth command stations are established before launch to ensure that any harmful interference caused by emissions from a station in the amateur-satellite service can be immediately eliminated. *[The only additional requirement of the Radio Regulations dealing with space services that applies to the amateur-satellite service.]*

A word of warning from the ITU

From what I have read - and I have digested just about everything that the ITU, IARU and the FASC has put out - the only issue that is really controversial is the international manual telegraphy requirement. At this point, it does not look like that the IARU will agree that the manual licensing requirement should be abolished when the operation takes place below 30 MHz.

Interestingly, at the opening of the IARU Region 1 Conference, Robert Jones VE3CTM, Director, International Telecommunications Union Radiocommunication Bureau, representing the ITU said, "It is essential for you - meaning the IARU - to speak with one voice even when there are genuine differences of view within the amateur community. Unless you are united, you will be the victims of the 'divide and conquer' approach."

IARU Region 3 Conference held in Beijing

Representatives of Amateur Radio organizations in twenty Asia-Pacific countries reviewed proposals and papers submitted by member societies at the 10th Regional Conference of IARU Region 3 in Beijing, the People's Republic of China. The Chinese Radio Sports Association (CRSA) hosted the week-long conference, which concluded September 12, 1997. Representatives of the ARRL also were on hand for the event.

Only a fortunate few in North America were able to work -- or even hear -- special event station BT1IARU, the on-air emblem of the Region 3 gathering. Although conditions were not favorable to this part of the world, the station made many QSOs elsewhere. The ARRL reported that things also went well at the conference

W5YI REPORT

America's Oldest Ham Radio Newsletter

Page #3

October 1, 1997

itself.

The conference's three working groups developed recommendations for consideration by the full conference. Recommendations adopted by the conference dealt with subjects as diverse as preparations for future ITU World Radiocommunication Conferences, strategic planning for the regional organization, electromagnetic compatibility issues, the IARU monitoring system, beacons, Amateur Radio direction finding, and many others.

Among conference highlights was the participation of representatives of the Vietnam Amateur Radio Club, which hopes to join the IARU.

David Rankin, 9V1RH, retired as a director after 24 years of service as Regional Secretary and Director, half of that time as Chairman of Directors. The other incumbent directors, HL1IFM, JJ1OEY, ZL2AMJ, and 9M2SS were re-elected. Former Director David A. Wardlaw, VK3ADW, was returned to office. Keigo Komuro, JA1KAB, was re-elected as Regional Secretary. Fred Johnson, ZL2AMJ, continues as Chairman of Directors.

Representing the ARRL at the Beijing conference were ARRL President Rod Stafford, KB6ZV, assisted by First Vice President Steve Mendelsohn, W2ML, and staff members David Sumner, K1ZZ, Paul Rinaldo, W4RI, and Naoki Akiyama, NX1L. International Affairs Vice President Larry Price, W4RA, attended in his capacity as IARU Secretary.

The more than 100 conference attendees complimented the CRSA for the arrangements, which included excellent logistical support of the conference plus a visit to the Great Wall and the Summer Palace in Beijing. The next IARU Region 3 conference will be held in Australia in 2000.

Working Group No. 3

Working Group 3 discussed many issues of importance to the Amateur community. In his capacity as chairman of the *Future of the Amateur Service Committee* (FASC), IARU Vice President Michael Owen, VK3KI reviewed the method used to stimulate comment.

So far, in addition to the original discussion document, two additional reports have been distributed. Owen conceded that many amateurs and organizations felt the FASC document reflected the opinions of the Committee rather than as serving as a vehicle to encourage debate on the issues.

He underscored that their task was to determine appropriate international amateur service regulations for the future rather than the present. The international regulations applying to the amateur service must be broad enough to embody the contrasting views of amateur radio in different parts of the world.

IARU policy will be determined by their Administrative Council once input is received and considered from all three IARU regions, all member-societies and the final report is received from the FASC.

Again, Michael Owen emphasized that it was very

important that amateur radio "speak with one voice" even if a total accord cannot be reached. That means, that it may be prudent and necessary for some amateur radio organizations to accept less than total agreement.

A discussion followed on the conclusions of the IARU Region 1 Conference held in Tel Aviv, Israel last fall. In contrast to the idea originally floated by the FASC, the Region 1 societies wanted no substantive changes to the current international amateur service regulations. The new approach was discussed where bare minimum international regulations could be supplemented by action in individual countries.

The two cornerstones of Amateur Radio is that it is a non-commercial service carried out by qualified operators. Also discussed was the consideration being given to a new system that would "recommend" qualification information into the international regulations which would not have the force of a treaty. This approach would permit revision of the "Recommendation" in between World Radiocommunication Conferences.

Morse code as an HF licensing requirement

Comments and questions followed on the draft version of Article S25 - the international amateur service regulations. The ARRL pointed out that retention of the mandatory Morse code requirement is favored by two-thirds of their membership. The ITU Region 1 representative (from Poland) also noted the very serious concern of Region 1 with regard to reduction in the Morse requirement.

The delegate from New Zealand believed that a position of "no change" in the current regulations would be appropriate. ZL2AMJ suggested the term "Morse" be changed to "narrow band human-readable digital communications." Another delegate thought that the Morse requirement should be left for individual countries to decide. Indonesia and the Philippines felt CW communication was very important. In support of abolishing the Morse HF licensing requirement, the Korean delegate said they have had a codeless HF (except 20 meters) for 15 years and that it had contributed to healthy amateur radio growth.

The delegate from Thailand said that they used to regard the Morse code as a filter that allowed people who would make good amateurs to enter ham radio and keep others out. They now believe that it keeps out both and that a new filter should be found. It was noted that countries that permit codeless HF operation have not been a problem and that a position of flexibility is needed. Another delegate said that their codeless HF amateur license had curbed the number of unlicensed stations.

The IARU Region 3 Report will indicate strong support for retention of the Morse treaty requirement by the majority but will note the comments of a significant minority that favors the elimination of the mandatory requirement and the adoption of a more flexible approach.

W5YI REPORT

America's Oldest Ham Radio Newsletter

Page #4

October 1, 1997

Short wave broadcasting and ham radio

IARU Secretary Larry Price, W4RA discussed the 7 MHz issue. It has long been the IARU plan to seek to align the 40-meter band as a world-wide, exclusive 300 kHz allocation. There is, however, a Fixed Service conflict in ITU Regions 1 and 3 with a world-wide amateur allocation at 6900-7200 kHz.

The 7 MHz matter may not even come up at WRC-99 because some preceding issues may not be resolved at WRC-97 which will conclude its work on November 21. On the other hand, the Region 1 delegate thought that the 7 MHz issue was more likely to be on the agenda for WRC-99 than the Article S25 (international amateur radio regulations) since it is related to the issue of HF broadcasting which has stronger support. A resolution was adopted supporting an exclusive world-wide Amateur Service allocation in the vicinity of 7 MHz of no less than 300 kHz.

IARU Region 3 Recommendations

Recognizing that the policy of the IARU will ultimately be determined by the Administrative Council after receipt of the final report of the FASC, the Region 3 Secretary was instructed to submit the following comments to the FASC on behalf of Region 3.

1. The fundamental characteristics that distinguish the Amateur Service from other radiocommunication services are, first, their non-commercial nature, and second, that the participants are operators having demonstrated qualifications. The service-specific regulations should reinforce those characteristics.
2. It is desirable that the role of the Amateur Services as a disaster communications resource be recognized explicitly in the radio regulations.
3. It is desirable to delete from the service-specific regulations those provisions that also appear in the regulations of general application.
4. It is desirable to delete the provision relating to the banned country list.
5. With regard to the specific text offered by the FASC as a possible new approach to Article 25, the text is agreeable with the following amendments.
 - A. In S25.1, second sentence, change "may" to "shall". (*Requires a country to adhere to recommended syllabus.*)
 - B. In S25.2, FASC should consider whether the wording of the phrase "transmissions between amateur stations shall not be encoded for the purpose of obscuring their meaning" can be improved.
 - C. In S25.4, first sentence, as a consequence of the change to S25.1, delete "by an administration that requires the demonstration of a knowledge of the topics in ITU-R Recommendation M-XXX before granting such a license." FASC should consider whether the clarity of this section can be improved.

MORE COMMENTS ON PRIVATIZED ENFORCEMENT

RM-9150 is a *Petition for Rulemaking* filed on March 28, 1997 by the American Radio Relay League which seeks to create a streamlined, privatized enforcement process for rule violations in the Amateur Service. The new proposed procedures would only address serious malicious interference cases. Under the proposal, the pre-trial administrative work and presentation of the case to the FCC's Administrative Law Judge (ALJ) would be handled by the ARRL instead of the FCC's Wireless Telecommunications Bureau. The evidence gathering would be prepared by the ARRL's Amateur Auxiliary, a volunteer monitoring corps authorized by (1982) Public Law 97-259 and administered by the League's Section Managers. The Amateur Auxiliary has a formal agreement with the FCC to monitor the airwaves for rules violations.

William A. Tynan, W3XO (Kerrville, TX) is one of the founders of the Radio Amateur Satellite Corporation (AMSAT) and has been serving as its president since 1971. For 18 years, Bill wrote the monthly column "The World Above 50 MHz" for QST.

He strongly supports the ARRL petition since it would "...provide a means of maximizing the administrative burden on the Commission's staff in preparing and presenting enforcement cases to the Administrative Law Judges for adjudication. I contend that this is in the current spirit of making Government smaller and less burdensome on the taxpayers and still provide service."

Tynan also believes that "...this approach would encourage compliance overall, by creating a sense of deterrence to those who might be inclined to violate the Rules." He adds, There is a great deal of value and utility in the work of many volunteers in the Amateur Auxiliary [which] is not being used to its greatest advantage under present Commission enforcement procedures. ...The increased use of volunteer resources would seem to be entirely appropriate in the Amateur Service, which involves avocational, public service, and public safety uses of radio only." (Aug. 26, 1997)

Anthony M. Amato, KR4UQ (an Official Observer from Richmond, VA) starts off by saying that "The Amateur Radio Service has, over the past ten years become a haven for persons exhibiting utter disregard of the rules.... He believes that the ARRL proposal does not go far enough. "Onerous and explicit obscenities are as widespread a problem (even more so) as deliberate interference, and must be dealt with also." He believes "...fixing the problem of interference and abuse go hand in hand, and [it] would appear to be a more practical approach to consider [that] both species of violations be submitted to a ALJ."

Amato concludes "The method offered by the League is well crafted, economically judicious, yet an effective way to deal with the most compelling abuse encountered by amateur radio operators."

"Official observers, far from being 'radio police,' under RM-9150 - the Commission retains full jurisdiction of establishing probable cause that a violation occurred, and enforcement thereof.... The Official Observer acts only as a facilitator and evidence gatherer."

W5YI REPORT

America's Oldest Ham Radio Newsletter

Page #5

October 1, 1997

"The consequences of a continued lack of official attention and enforcement can only further erode a radio service that has given, and can continue to give, so much to the American public in technology, public service, and ...unparalleled emergency communications in time of natural and man-made disaster..." (Aug. 28, 1997)

J.D. Brook, KK6PA (Ridgecrest, CA) says that "Many continuing incidents of malicious interference to amateur radio operators are never reported because of the FCC's budgeting problems." Autopatch interference and unlicensed use is a problem in his area. He says nothing is done because the violators realize the FCC has insufficient funds and staffing. He wants a *Notice of Proposed Rulemaking* issued. (Aug. 21, 1997)

Gene P. Knapp, Sr, W3BAB (Glen Burnie, MD) is an Electrical Engineer, has been licensed over 40 years and a past president of his radio club. Knapp writes "The proposed measure would allow an effective way to continue self regulation of the amateur radio service. ...This may allow the only chance for us (the ham community) to save the service as we have known it in the past. Things are getting bad without ...policing and things will get worse." (Sept. 1, 1997)

Walt Flesher, W6SA (Anaheim, CA) supports passage of RM-9150. "We need to do something about the intentional jamming and malicious interference... These people feel they are free to do whatever they please with no threat of prosecution. They are an embarrassment to our ham fraternity and the people of this country. I have personally heard these degenerates using foul language directly to children on the two meter band. It is hard enough to encourage our youngsters to enter the hobby without having them having to listen to this kind of activity. ...I realize that we have a free speech issue involved, but when it involves malicious interference and in many instances disruption of emergency communications, something must be done. ...send a message to these people that we will no longer tolerate their actions..." (Aug. 24, 1997)

Dave Bell, W6AQ (Hollywood, CA - and a producer of many amateur video productions) urges the FCC to adopt RM-9150. "There is no doubt that we need to streamline and privatize the enforcement process in amateur radio so that serious ...rules violators will be swiftly dealt with. RM-9150 is an example of concerned, responsible citizens taking action against scofflaws. (Aug. 26, 1997)

Brian Treusch, W6LL (Oakland, CA) has been licensed for 40 years and holds both Extra Class amateur and GROL commercial radio licenses. "There has been a steady erosion of law-abiding operation in the U.S. amateur radio bands for the past twenty years," he

says. "This erosion dramatically worsened during the Reagan Administration era because the ARRL mistakenly endorsed a policy of 'self-regulation.' This policy is seriously flawed ...because they never sought any means of directly challenging the law breakers." He listed several instances where intentional jamming had interfered with ongoing emergency and public service communications. (Aug. 25, 1997)

John Kopala, N7JK (Phoenix, AZ) agrees that "With the recent cutbacks in the FCC field organization and the burden of enforcement activity for other communications services, the Commission does not have the resources to respond to problems of malicious interference to the amateur radio service..." He observes "Interference continues for extended periods and even monetary forfeitures are ignored." Kopala believes that the ARRL proposal "...will provide consequences for blatant violations ...by taking advantage of the resources of the Amateur Radio Auxiliary and with the knowledge of the Commission while reducing the requirements of the FCC staff for identification, monitoring and recording of the offending parties." (Aug. 17, 1997)

Ernest Pridemore, KC4IVG (Evarts, KY) is an Official Observer who agrees that "Conditions on some of the amateur radio bands are becoming horrible. Most people laugh at the prospects of having anything done to them for abusive language, jamming and malicious interference. A lot of operators now think the FCC is a joke. I feel to privatize handling of malicious interference complaints would help clean up this problem before the amateur radio bands become another 'CB' band. Right now, when I gather info/evidence on an individual it seems to me I have just as much chance of getting something done if I stick it in the trash..." (Aug. 6, 1997)

Joseph Speroni, AH0A (Lawai, HI) says he has twenty years experience in Japan and experienced first hand the effects of excessive crowding on the allocated frequencies coupled with no enforcement. The rule of law requires timely enforcement. The Amateur Radio Service takes its obligation to the community seriously and has the skills to organize self-enforcement. With the FCC resources increasingly needed in the expanding communications markets, the volunteer resources available in the ARS should be considered in solving pending and future interference cases." (Aug. 22, 1997)

Robert E. Nelson, N5EW (Kerrville, TX) "The proposed structure for private enforcement appears to be appropriate and workable. Private enforcement should not be limited to malicious interference. From time to time there will be other problems that warrant serious action. Nelson believes that "...there must be an expectation that serious violations of the rules will quickly and surely result in correct measures." (Aug. 22, 1997)

W5YI REPORT

America's Oldest Ham Radio Newsletter

Page #6

October 1, 1997

CUTTING EDGE TECHNOLOGY

■ **WebTV (bought by Microsoft for \$425 million) gets the look and feel of a web-video PC.** By the end of the century, 1 million "net-ready" television sets will be in U.S. homes. The software to run these TVs will be big business.

A new "WebTV Plus" (\$299) high-capacity hard drive device permits users to download and store television programming. The box also caches user information (like credit card numbers) to facilitate impulse purchasing from TV ads.

The WebTV box incorporates e-mail, chat functions and (with a video camera) allows users to send video clips as e-mail. It will be jointly manufactured by Sony, Phillips, Mitsubishi and Hitachi.

Word processing and Microsoft's Internet Explorer browser gets included next year when Windows CE is added. WebTV has also developed a new chip that will act like a TV tuner, cable modem and high-speed PC-modem. WebTV now has 150,000 subscribers - about triple the number it had just six months ago.

■ **Only 40% of the public has a computer, but 65% have cable TV.** Look for Worldgate Communications, Inc. (Bensalem, PA) to begin offering Internet service through a set-top converter box at \$12.00 a month! They send the Internet over the TV's unused vertical blanking interval. All processing occurs at the cable TV site - only the low-tech keystrokes are sent upstream. The Internet video is sent downstream - the same as a regular cable channel. It will be a lot cheaper than WebTV's \$300 set-top device and \$20 monthly fee. Speed is said to be 192K (nearly 7 times faster than a 28.8 kbs modem.)

■ **Sony has a new wearable movie theater.** The Glasstron looks like large sunglasses with each lens containing a mini movie screen. Small sound speakers plug into each ear. It works by plugging into any video feed ...such as a VCR. Available only in Japan for about \$600 U.S.

■ **A recordable movie disk war may be on the horizon! And DVD's (Digital Video Disks) could become obsolete** even though they were just rolled out nationally in August. Some 400,000 discs and 180,000 players have already been sold. **A new cheaper digital disc version - called Divx - is being supported by Universal, Paramount and**

Dreamworks movie studios. An advantage of Divx is that movies can be sold (for \$5) which carry only a 48 hour viewing period. After that time period, the Divx is "locked" from further viewing by encryption. (Warner Brothers and Sony are still backing the DVD format - with Disney supporting both formats.)

■ **IBM's stock jumped 5% in one day after it announced that it had found a way to make faster and cheaper computer chips.** They have come up with a patented method to make computer chips out of copper rather than aluminum. Copper can carry signals up to 40% faster and the new process is 30% less expensive than aluminum. Since the new chips run cooler, they will be able to be stacked in 3D fashion. IBM is the first chip-maker to figure out a way to bond copper to the surface of silicon chips. IBM will begin selling the chips next year and said they do not intend to license the technology.

EMERGING COMMUNICATIONS

■ **Audio over the Internet is really not new.** What is new, is offering it as a new commercial service. AT&T and (German) Deutsche Telekom are joining forces to merge phone calls with the web. They are really not interested in free phone calls. They want to offer Internet businesses around the globe a way to have their web customers instantly access them by telephone. It would be free to the customer - and since it too goes over the Web - very inexpensive to the Internet-based business. It would be sort of a low price Internet "800" service.

■ **Residential telephone price war!** MCI's response to Sprint's "Dime Lady" was to cut the Sunday rate for telephone calls to a nickel a minute. Sunday is the most popular day for residential calls. (It will cost 12¢ to 15¢ a minute for the rest of the week.) Sprint answered by lowering the residential rate for Monday night calling (during the football game - 7 to 11 p.m.) to "free" with a \$50 limit. About a million households change their long distance service every month! AT&T has been hurt the worst by low price calling.

COMPUTER INFO

■ **The soap opera continues... Apple**

Computer is going into the low cost mass appeal NC (Network Computer) business! We have learned that Apple has developed and will be launching an Apple NC in early 1998. The project is still confidential at this point. It will run Macintosh OS software and the project has been put on the "fast-track."

Since Apple is refusing to license future new technology, you can forget about Motorola cloning any more Apple PCs. They have taken a \$95 million charge against third quarter earnings to phase out their line of Apple look-alikes. IBM is also shutting down their Macintosh clone operation. Apple recently purchased the assets of Power Computing Corp. for \$100 million, the No. 1 Apple licensee. That effectively made MacClones a thing of the past.

Dataquest, a respected research firm, had strong words to say about Apple's licensing halt. They said it would lead to the demise of the troubled computer maker. Dataquest analysts predicted in a recent report that they did "...not believe Apple will survive its next downturn, [which] will presage the company spiraling into insignificance as it loses any advantage of scale."

On the other hand, the stock market seemed to like the changes that are taking place at Apple! Its stock has gained more than 20% in the last six months.

Meanwhile, Steve Jobs (Apple's founder some twenty years ago) has been named "interim CEO" until a permanent successor can be named by the end of the year. To be continued...

■ **See who you are chatting with! On September 15th, Intel introduced a new line of cameras for PCs.** The \$199 to \$399 Intel Create & Share Camera Pack will let consumers do video-conferencing and capture still images and video that can be delivered over the Internet or printed. The camera sits on the monitor and plugs into the PC. Internet camera devices are expected to be as common as the computer mouse by the year 2000. Intel says they will spend \$30 million in U.S. advertising this fall to push the camera line.

■ **Panasonic also has a new egg-shaped camera that sits on your desk.** The "EggCam" is designed to send video messages to any computer user with access to Internet e-mail. The device can also be used for real-time audio and video teleconferencing or to add a photo to chat room conversations! (Info: 1-800-742-8086)

W5YI REPORT

America's Oldest Ham Radio Newsletter

Page #7

October 1, 1997

INTERNET NEWS

■ It is a good idea to know who you are dealing with! The Washington, DC-based National Consumers League reports that **Internet fraud has tripled during the past year.** The top ten Internet scams:

- 1) Undelivered Internet and on-line services;
- 2) damaged, defective, misrepresented or undelivered merchandise;
- 3) auction sales (skills used to drive up bids, items not delivered);
- 4) pyramid schemes (chain letters in cyberspace) and multi-level marketing;
- 5) misrepresented on-line business opportunities and franchises;
- 6) work-at-home schemes; (many are instructions on how to sell still more instructions to others - or require purchases)
- 7) prizes and sweepstakes (many have costly strings attached);
- 8) credit card offers (advance fees often requested);
- 9) books and other self-help guides; (never delivered) and
- 10) magazine subscriptions (from false subscription services.)

The League's Internet Fraud Watch can be reached at <http://www.fraud.org>

■ **"Webcams" are everywhere now ...thousands and thousands of them!** They are inexpensive still video cameras lashed to the Internet. Most are scenic in nature - like updated shots of the Las Vegas strip - but several are "unique." A family in Sweden has one inside their refrigerator and a photo of the door-opener is posted to the Internet. A log beside the picture keeps track of fridge access. There are aquarium.cams, restroom.cams, pigeon.cams, zoo.cams and mystery.cams. You find them by "searching" for webcam indexes such as the Digital Camera Network. See <http://www.dcn.com>

■ Jennifer K. Ringely, a recent Dickinson College (Pennsylvania) graduate from Harrisburg, is a 21 year old Web site designer who currently works out of her apartment in Washington, DC. **What makes her "cam" a little different is that she has a camera in her bedroom.** Twenty-four hours a day, the camera takes her picture every three minutes and posts it to <http://www.jennicam.org>. Most of the photos are anything but interesting, but frequently they are - like when she steps out of the shower! Jennicam gets

about 20 million "hits" a day! About 6,000 people pay \$15 a year to receive updated Jenni images every three minutes. She says her webcam is non-profit. Most of the revenue goes to pay for Internet bandwidth and hardware upgrades.

"Guests" only receive free images every 30 minutes. She says she is not an exhibitionist since she is not performing for the camera, but living her life as if the camera did not exist. Now other real time (not so prudish) imitators are showing up - Example: <http://www.amateurcam/>

■ Microsoft is now firmly entrenched in the commission travel business (through its "Expedia" website), finance (through "Microsoft Investor") and automobile sales (through "CarPoint.") **It now has its sites set on making real-estate purchases easy and painless and charging a fee for matching up buyers and sellers.**

A new Microsoft website (currently code-named "Boardwalk" - a property on the Monopoly board game) is quietly being groomed as an innovative and streamlined way to find and buy real estate over the Internet. It will be launched early next year and tied into Microsoft's local "Side-walk" city sites. By partnering with the nation's Multiple Listing Services and lenders, a person relocating will be able to learn everything about their new area - including the housing market and available financing - prior to moving. Real Estate agents and brokers are concerned about its impact on the housing market - and where they (do or do not) fit in.

■ The high-tech C|Net takes on a consumer flavor! **"Snap! Online" - a free service from C|Net - made its debut on Monday, Sept. 22.** Like America Online - it acts as the default "front door" interface and programming guide to the Internet. The idea behind Snap! is to help 10,000 ISPs (Internet Service Providers) compete with AOL. Snap!, which is divided into 13 programming channels, cost more than \$2.2 million to develop.

Snap! has forty "producers" who comb the Internet looking for material for each of their channels. Snap! features e-mail and chat rooms ...and automatically delivers local weather forecasts, lottery numbers, newspapers and movie listings based on your input zip code.

Snap!'s revenue comes from advertising and providing a customized online service for each of its distribution partners. See <http://www.snap.com>

While Snap! is coming, CompuServe

is going! **The CompuServe Information Service was recently sold by H&R Block (the tax people) to WorldCom, Inc. of Jackson, MS (the nation's No. 4 long distance company) for about \$1.2 billion.** After the sale, WorldCom transferred CompuServe's 3 million customers to America Online, Inc. (Dulles, VA) as well as paid AOL \$175 million.

AOL also turned its own high-speed Internet access division over to WorldCom. WorldCom now becomes a networking giant and AOL's subscribers now exceed 12 million -- about 6 times its nearest competitor, the Microsoft Network (MSN.)

WASHINGTON WHISPERS

■ **A computer hacker has intercepted sensitive pager messages** sent from the Secret Service to agents assigned to President Clinton. Pamela Finkel, a staff member of 2600, a quarterly hacker newsletter, published them on her website to show how easy it was to intercept private messages.

Encryption experts said the alleged interception demonstrated why strong encryption is necessary. Finkel said it was easy to decode pager messages by using a simple radio scanner, a PC and hacking software available on the Internet.

So far Congress has not found an encryption approach that would be acceptable to both law enforcement and national security agencies on one side, and software companies, civil libertarians and Internet users on the other. The FBI wants lawmakers to adopt restrictions that would permit the Government to decode any encrypted message.

■ Back in the 1980's hardly anyone thought much about Microsoft. That changed in the 1990's as the company began to dominate personal computing. A late comer, it now is beginning to dominate the Internet. **The Department of Justice is now looking into Microsoft's many investments** in Internet companies and Apple Computer because of concerns about competition.

Microsoft recently acquired VxTreme, Inc., and took minority stakes in Progressive Networks (maker of RealAudio and RealVideo) and VDONet, Inc. Within the last couple of weeks, Microsoft invested millions in Belgian and German speech recognition and translation software companies. Last month, Microsoft took a

W5YI REPORT

America's Oldest Ham Radio Newsletter

Page #8

October 1, 1997

\$150 million stake in Apple. A few months ago, Microsoft acquired WebTV and took a \$1 billion position in Comcast. Microsoft wants to bring the TV to the PC and the PC to the living room.

The DOJ is also looking into Microsoft's combining of its Internet Explorer browser and its Microsoft Network online service with its Windows 95 operating system. Windows 98 - due out between next April and June - will even have a tighter bond to the Internet.

And rumor even has it that Microsoft might buy CBS. In addition to being the richest person in the world, Microsoft CEO Bill Gates could also become the most influential since he will be able control content and technology. Microsoft has a war-chest of \$9 billion in cash! If they can't build it ...they'll buy it.

■ In New York City, **three executives associated with the Breaking News Network (BNN) have been charged with providing illegally intercepted news tips** to journalists. The information was gathered from sensitive pager messages between police, fire officials and the mayor's office. It was the first indictment ever for illegally intercepting pager messages.

A software computer package called "Message Tracker" - a program available for law enforcement use that can be obtained only by court order - was supposedly used to tap New York City's privately run paging system. The defendants face up to five years in prison and fines up to \$250,000. The Associated Press uses BNN as a tip service.

■ On August 29th, a Virginia attorney for Christopher DiPaola **petitioned the FCC to establish a new commercial low-power broadcast service** in the expanded AM band between 1610 and 1710 kHz. Proposed is a power level of up to 10 watts ERP (effective radiated power) and an antenna length no greater than 15 feet. Stations would be required to operate outside of the coverage area of existing adjacent AM stations. The petitioner argues...

"As the Commission is aware, there are a number of relatively low-power, illegal unlicensed stations operating in the AM band. This is the result of serious fledgling broadcasters intent on serving the public, but without access to the facilities or the financial resources for a traditional broadcast facility. Nevertheless, despite the fact that these facilities are unlicensed, the FCC has not had the means to easily

monitor these facilities to ensure that they are operating on a non-interfering basis. By establishing this new local-based service, new local service would be provided; the operations would be specifically licensed and restricted to certain select powers and service areas to ensure there would be no interference to any existing facility; and there would be a reduction of 'unlicensed' broadcasters not under the direct oversight of the Commission. Moreover, establishing the service would be consistent with the FCC's policies disfavoring monopolies and which encourages a diversity of broadcast 'voices' in the marketplace."

"The only segment of the population this proposal is expected to upset are existing broadcasters concerned about additional competition. Such concerns, however, address only broadcasters' private financial business, which would in this case be outweighed by the value of a [new] service that would result to the local listening public."

An initial filing fee of \$1,500 was suggested with an annual fee of \$1,000 per year once the AM station is licensed.

■ **Too many Personal Communications Service providers are chasing too few PCS subscribers.** During the past two years, the FCC auctioned off "next generation" wireless telephone spectrum to 89 companies for more than ten billion dollars.

Now comes the moment of truth ...paying the bill. And many of the smaller bidders can not. At least two bidders have already gone bankrupt. The Government could be out as much as half to three-quarters of the \$10 billion they thought they had. The FCC is now considering re-claiming and re-auctioning the licenses.

■ An alliance of TV companies came up with the standard for HDTV last December. **But Television broadcasters are now having second thoughts about offering digital high definition television** with wider screens, higher resolution and crystal-clear audio as soon as late next year. That's when the FCC has mandated that more than 30% of the nation's 98 million TV households should be able to receive HDTV. By 1999, 50% of the public will get digital signal capability. The FCC gave each TV broadcaster a free digital channel in exchange for returning their analog channel to the Government for auctioning in 2006. Forrester Research, however, says that it will be ten years before half the nation's households can be

expected to even have digital television receivers. The market for digital TV sets is estimated at a whopping \$150 billion. (Forrester's figures in millions/households:)

Year	Digital TV Sets	Digital Converter Boxes	Total HDTV
1998	.02	.01	.03
1999	.1	.3	.4
2000	.6	.7	1.3
2001	1.6	1.2	2.8
2002	3.5	2.9	6.4
2003	6.7	4.5	11.2
2004	11.8	6.1	17.9
2005	19.9	8.4	28.3
2006	28.0	10.1	38.1
2007	35.8	11.0	46.8

AMATEUR RADIO

■ **The Phase 3D amateur satellite will not be launched September 30th as planned.** By mutual consent, the contract with ESA, the European Space Agency has been canceled and the launch of Phase 3D is being renegotiated with ESA and various other launch agencies by Phase 3D Project Leader and AMSAT-DL President Karl Meinzer DJ4ZC. A launch is possible in about six months.

The postponement was made necessary when ESA changed the launch environment specifications which required that significant structural modifications be made to the Phase 3D spaceframe.

AMSAT was not able to get the structural work completed in time - but it should be completed soon. The structural modifications have cost an additional \$25,000 over and above expenses previously contemplated.

■ **Gordon West, WB6NOA will be presenting a day-long Novice-Technician Class Review** (February 5th) and a General Class Code/Theory Review (February 6th) just before the February 7 and 8, 1998 Tropical Hamboree Convention in Miami. (Cost is \$25 each.) A 5-wpm code test preparation review (\$10) takes place from 6 to 9 p.m. on February 5th. Information: 305/642-4139.

Ed Hare, W1RFI, ARRL Laboratory Supervisor will also present an RF Safety Workshop on February 6th (\$20 ARRL members, \$25 non-members) ARRL Education Dept, 860/594-0200

■ **The Radio Society of Great Britain reports that a new amateur HF**

W5YI REPORT

America's Oldest Ham Radio Newsletter

Page #9

October 1, 1997

beacon is on the air. ZL6B, located near Masterton, New Zealand, transmits with a peak power of 100 watts, reducing to 100 milliwatts on 14100, 18110, 21150, 24930 and 28200 kHz. These are the same frequencies as used by the Kenyan beacon, 5Z4B.

The RSGB broadcast also mentioned that a new amateur radio satellite has been built by high-school students in France and Russia to commemorate Sputnik's 40th birthday. The spacecraft is scheduled to be released from the Mir space station on the 4th of October. It will have a life of only one or two months since it operates on dry cell batteries. The operating frequency will be between 145.810 and 145.850 MHz.

■ **Radio trivia you should know! Which radio station was the first to "broadcast?"** The answer is not the same as which station was the first licensed broadcast radio station in the U.S.

Radioamateurs, of course, were the first broadcasters. San Francisco's KCBS roots go back to 1909 when amateur Charles Herrold (San Jose, CA) broadcast music from Herrold's School of Radio over 6XE and 6FX (before the days of ITU call sign prefixes). About the same time, WHA (Madison, WI) sprang from station 9XM operated by Earle Terry. WWJ owned by the Detroit News was originally 8MK. It began operation on August 20, 1920.

The first license to broadcast was awarded to amateur Dr. Frank Conrad, 8XK of Westinghouse on October 27, 1920. His first "official" broadcast was the Harding-Cox election results on November 2, 1920. Actually Conrad began playing music from his garage in 1916 after the wartime ban on entertainment was lifted.

All broadcast stations operated on the same frequency, 360 meters (833 kHz.) The first radio sponsorship (originally called "toll broadcasting") advertised real estate in New York. It cost \$50 for five programs which started August 28, 1922.

David Sarnoff claimed credit for commercializing radio broadcasting, but he did not envision transmitting advertising messages by radio. He wanted radio broadcasting to be an educational and entertaining medium only, paid for by receiver manufacturers out of profits they made selling his "radio music boxes."

Sarnoff, a young Russian immigrant to America, started out his career as the lone radio operator at American Marconi who relayed news from the sinking Titanic to

the rest of the world. American Marconi later became the Radio Corporation of America (RCA). When it became apparent that the sale of radios would not be able to cover the cost of program production forever, Sarnoff got together with GE and Westinghouse and formed the advertiser-supported NBC. Sarnoff was not happy with amateur radio operators whom he perceived as a road-block to the future of broadcasting. With the help of regulation, he managed to get ham operators off of frequencies used by broadcasting. This causes one to wonder whether business interests will eventually get "amateurs" off of the Internet as it commercializes.

■ **The new law limiting liability of volunteers (including VE's and Official Observers)** went into effect on September 16th. But don't interpret that to mean that you can't be sued. Volunteers can still be taken to court for harassment, criminal acts and reckless disregard for the rights of others.

■ **The new Online Special Event System is working well.** So far about 50 one-by-one format call signs have been requested and posted to the 1x1 database located at <http://ncvec.spindle.net>

The W5YI Group is one of the coordinators, so if you want to use a 1x1 call sign during a special event, just input your information into our online request form at: <http://www2.spindle.net/w5yi/request>

■ **On September 17th, the FCC finally began processing Gate 3 Vanity Call signs requested by Advanced Class licensees.** Some 600 vanity call signs were issued to those who filed applications on August 6, the opening day. An equal number could not be processed for one reason or another and the FCC is now working on them.

Note that: (1.) The regulatory fee for a vanity call sign went to \$50.00 on applications received on/after September 15th and (2) a new version of the FCC Form 159, Remittance Advice has been issued which must be submitted with the Vanity call sign application (Form 610-V) regardless of your method of payment.

The new Form 159 allows the Commission to comply with the Debt Collection Improvement Act of 1996 by collecting taxpayer identification Number (Social Security Number) for both the payer and the applicant. This form is available on the Internet at URL <http://fcc.gov/formpage.html> in "pdf" (Acrobat) format. (We also have a supply here at the W5YI Group.)

■ **The controversy still rages over the safety of the rickety Russian Mir space station.** Wendy Lawrence, KC5KIL, was to have replaced Mike Foale, KB5UAC, as the sixth U.S. long-duration visitor to Mir, but this now will not happen. The reason given is that Wendy (at 5'3" 120 lbs.) is too small to fit into the Russian space suit in the event a repair space walk is necessary aboard Mir.

Instead, ham astronaut David Wolf, KC5VPF (5'10" 185 lbs.) will replace Foale as the next U.S. astronaut aboard Mir. That is if Congress and NASA allow the Shuttle/Mir missions to continue. U.S. House Science Committee chairman, Rep. Frank Sensenbrenner (R-WI) said he is convinced that NASA should scrap plans to send Wolf to Mir. At presstime, a decision had not been made, but a NASA safety review preliminarily concluded that Mir is safe. Wendy will be aboard STS-86 (Shuttle Atlantis) to help him unpack. The mission is due for liftoff Thursday September 25th - tonight at 0234 GMT - 10:34 p.m. EDT.

Wolf, 41, is both an electrical engineer and a medical doctor. Two other U.S. licensed amateurs are also among the STS-86 crew bringing the total to four: Mission Specialists Scott Parazynski is KC5RSY and Vladimir Titov, KD5AOS.

■ **Azden Communications Division Manager, Sid Wolin K2LJHY wrote us that Azden Corp. was going out of the amateur radio equipment business.** Azden's other divisions will continue and that full repair and warranty service will still be available.

W5YI REPORT		SEPTEMBER 15, 1997	
1. Extent and Nature of Circulation		Average No. Copies Each Issue During Preceding 12 Months	Actual No. Copies of Single Issue Published Nearest to Filing Date
a. Total Number of Copies (Net press run)		2500	2500
b. Paid and/or Requested Circulation			
(1) Sales Through Dealers and Carriers, Street Vendors and Counter Sales (Not Mailed)		0	0
(2) Paid or Requested Mail Subscriptions (Include advertiser's proof copies and exchange copies)		1744	1504
c. Total Paid and/or Requested Circulation (Sum of 15b(1) and 15b(2))		1744	1504
d. Free Distribution by Mail (Carriers, non-carrier mail and other means)		63	79
e. Free Distribution Outside the Mail (Carriers or other means)		0	0
f. Total Free Distribution (Sum of 15d and 15e)		63	79
g. Total Distribution (Sum of 15c and 15f)		1807	1583
h. Copies not Distributed		673	917
i. Total (Sum of 15g and 15h)		2500	2500
Percent Paid and/or Requested Circulation (15c / 15i x 100)		72%	63%
16. Publication of Statement of Ownership: OCT 1 1997			
17. Signature and Title of Publisher: <i>David Sarnoff</i> Date: 9/27/97			

Instructions to Publishers

- Complete and file one copy of this form with your postmaster annually on or before October 1. Keep a copy of the completed form for your records.
- In cases where the publisher or security holder is a trustee, include in item 16 and 17 the name of the person or corporation for whom the trustee is acting. Also include the names and addresses of individuals who are distributed who own or hold 1 percent or more of the total amount of bonds, mortgages, or other securities of the publishing corporation. In item 17, if none, check the box. Use block checks if more space is required.
- Be sure to furnish all circulation information called for in item 15. Free circulation must be shown in items 15d, e, and f.
- If the publication has second-class authorization as a general or regular publication, the Statement of Ownership, Management, and Circulation must be published. It must be printed in any issue in October or, if the publication is not published during October, the last issue printed after October.
- In item 16, indicate the date of the issue in which this Statement of Ownership will be published.
- Item 17 must be signed.
- Failure to file or publish a statement of ownership may lead to suspension of second-class authorization.

PS Form 3526, September 1995 (Rev. 9/95)

W5YI REPORT

America's Oldest Ham Radio Newsletter

Page #10

October 1, 1997

LOW POWER, UNLICENSED FM BROADCASTING

The FCC last week issued two news reports concerning seizure of equipment used to operate low-power pirate FM broadcast stations. The first reported:

On August 24, 1997, A federal court in Tampa, Florida supported the FCC's seizure of radio equipment that had been used to operate an unlicensed broadcast radio station in Lutz, Florida. The FCC, represented by the Dept. of Justice, contended that the station's operator, Arthur Kobres, broadcast without a license on 96.7 MHz in violation of the Communications Act. His equipment was seized by U.S. Marshals on March 7, 1996. Kobres demanded that his equipment be returned and raised several issues in his defense challenging the FCC's authority to regulate his micro power broadcast operation. The District Court judge denied Mr. Kobres' claim to the equipment.

And on September 5, 1997 a Minnesota federal court also supported the Government's actions in seizing equipment that had been used to operate "The Beat" an unlicensed radio station on 97.7 MHz. The station operated from a location in downtown Minneapolis and had a coverage area of approximately 12 miles. The station's operator, Alan Fried, continued the operation even after an August 1996 warning letter. He responded by challenging the constitutionality of the FCC's regulations. In Nov. 1996, U.S. Marshals confiscated his equipment.

The FCC said, "In general, unlicensed radio transmissions create a danger of interference to important authorized communications services. Such transmissions using equipment of unknown technical integrity raise particular concern because of the potential for harmful interference to authorized services, including public safety and aircraft frequencies."

The rules concerning low power broadcasting

A common question among radio enthusiasts concerns low power broadcasting without a license. Is it legal? The answer is "Yes" providing the power level is low enough. Unfortunately, the coverage range is only about a 1/4 mile radius. The only exception to this is an AM transmitter operated at an educational institution where the coverage extends only to the campus.

The rules for low power FM broadcast operation are found in the FCC's Part 15 rules. (Section §15.209) The authorized field strength between 88 and 108 MHz may not exceed 250 microvolts/meter at 3 meters. Field strength is basically a combination of power output and antenna gain. Low power unlicensed television broadcasting is not permitted under any circumstances.

Micro-Power Radio

Until 1978, low-power non-profit stations could easily obtain a license to operate at or below 10 watts of power. This changed when the Corporation for Public Broadcasting and other business interests petitioned the FCC to do away with the 10 watt stations in the interest

of "broadcast quality."

Many small community/school based radio stations were forced off the air or required to boost their power to 100 watts and meet more stringent requirements. The estimated cost to start a broadcast radio station now is around \$100,000. Opponents to this action say that it took away an important platform for free speech.

There is a growing movement to liberate the broadcast airwaves by creating some means of easier licensing and more spectrum availability to non-profit interests. Some individuals are challenging the corporate stranglehold on broadcast media by running illegal stations which they call freecasting or "sandbox radio." Most complaints against micro-broadcasters come from commercial radio stations. As a general rule, the FCC has been successful in shutting down renegade radio stations.

Pirate stations such as Black Liberation Radio, KAPW, Radio Libre, Free Radio Berkeley and San Francisco Liberation Radio are now retaining lawyers with ties to the ACLU to defy the FCC. One high profile station that the FCC has been unable to silence is Free Radio Berkeley operated in the California Bay Area by Stephen Dunifer on 88.1 and later, 104.1.

It went on the air in the spring of 1993 offering a mix of music, news and political commentary not available on commercial or public radio stations. Dunifer believes that stations with less than 10 watts of power should be able to broadcast without a license if they do not interfere with other stations.

In Nov. 1993, the FCC slapped Dunifer with a "Notice of Apparent Liability" seeking a forfeiture of \$20,000 for broadcasting without a license. On Dec. 4, 1995, the FCC filed a motion for a permanent injunction to silence Free Radio Berkeley. Surprisingly, on January 20, 1996, U.S. District Judge Claudia Wilken in Oakland refused to grant the injunction on constitutional grounds and is allowing that case to go to trial. It marked the first time that the FCC has been denied an injunction to stop the broadcasts of a pirate radio station.

Dunifer is represented by attorney Luke Hiken of the National Lawyers Guild's Committee on Democratic Communications (CDC). While all the legal maneuvering takes place, the station remains on their air and Dunifer supports himself by shipping his micro-radio broadcast transmitter kits all over the world. In an amicus legal brief, Hiken argued: "It is the obligation of the FCC to create a 'safe harbor' for non-licensed very low power broadcasting, or, in the alternative, to amend and apply its regulatory framework in such a way as to safeguard the First Amendment right of free speech for all persons, regardless of their economic power. By totally prohibiting low-power micro-radio, the FCC (1) fails to comply with its Congressional mandate to regulate the airwaves in the public convenience, interest and necessity, (2) exceeds the limits of the power conferred upon it by Congress, and (3) violates the constitutional rights of micro radio broadcasters and their listeners."